| | |
|---|---|
| **Item ID Number** | 04212 ☐ **Not Scanned** |
| **Author** | |
| **Corporate Author** | |
| **Report/Article Title** | Sales Specification Forms and Notes Describing Herbicide Orange |
| **Journal/Book Title** | |
| **Year** | 0000 |
| **Month/Day** | |
| **Color** | ☐ |
| **Number of Images** | 5 |
| **Descripton Notes** | |

Barry Byrd requested that these be sent to you.

# SALES SPECIFICATION

AGRICULTURAL PRODUCTS

THE DOW CHEMICAL COMPANY
AGRICULTURAL PRODUCTS DEPARTMENT
MIDLAND, MICHIGAN 48640

| SPECIFICATION | | SUPERSEDES | | METHOD OF ANALYSIS |
|---|---|---|---|---|
| NUMBER | DATE | NUMBER | DATE | |
| 21315 | 11/17/69 | 21315 | 7/15/69 | 20706 |

## 2, 4-DICHLOROPHENOXYACETIC ACID, BUTYL ESTERS

| | |
|---|---|
| 2, 4-Dichlorophenoxyacetic acid, butyl esters, minimum | 98.8 % |
| 2, 4-Dichlorophenoxyacetic acid equivalent, minimum | 78.8 % |
| Acidity as 2, 4-dichlorophenoxyacetic acid, maximum | 0.25 % |

THE POLICY OF THE DOW CHEMICAL COMPANY IS ONE OF CONTINUED IMPROVEMENTS BY RESEARCH AND MANUFACTURING WHEREVER POSSIBLE TO ASSURE A STILL FINER PRODUCT. HENCE, SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

FORM C-15770 PRINTED IN U.S.A. R5-68

# SALES SPECIFICATION

AGRICULTURAL PRODUCTS

THE DOW CHEMICAL COMPANY
AGRICULTURAL PRODUCTS DEPARTMENT
MIDLAND, MICHIGAN 48640

| SPECIFICATION | | SUPERSEDES | | METHOD OF ANALYSIS |
|---|---|---|---|---|
| NUMBER | DATE | NUMBER | DATE | |
| 87554 | 3/31/69 | 29019 | 2/28/60 | 87554a |

## 2, 4, 5-TRICHLOROPHENOXYACETIC ACID, BUTYL ESTERS

| | |
|---|---|
| 2, 4, 5-Trichlorophenoxyacetic acid, butyl esters minimum | 97.5% |
| 2, 4, 5-Trichlorophenoxyacetic acid equivalent, minimum | 80.0% |
| Acidity as 2, 4, 5-Trichlorophenoxyacetic acid, maximum | 2.0% |

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# Description of Orange

Orange consists of a 50-50 mixture (volume/volume) of 2,4-D and 2,4,5-T.

2,4-D theoretically makes up 48.5% weight of a gallon of Orange. The purity of 2,4-D is 99%. Thus, 48.5% x 99% = 48% Tech. ester technical 2,4-D. The acid equivalent of 2,4-D is 78.8%. Therefore, 48 x 78.8% = 37.8%

The specific gravity of Orange ranges from 1.275 - 1.295 while the weight of Orange per gallon is 10.75 pounds.

∴ 18.8 x 10.75 = 4.045 2,4-D acid equiv.

2,4,5-T makes up 51.5% by weight. The purity of 2,4,5-T was 97.5% and thus 97.5% x 51.5% = 50.2% technical ester. The acid equivalent of 2,4,5-T is 80%.

Thus 80 x 50.2 = 40.2%

40.2 x 10.75 = 4.30 lb/gal.

4.30 + 4.05 = 8.35 lb ai/gallon

Orange contains a small percentage of butyl alcohol & butyl ester moiety.

2,4-D .25% free acid = .0268 lb ai

2,4,5-T Free Acid = .2150 lb ai

2,4-D ae from Esters = 4.1847

2,4,5-T " " " = 4.1925

8.6190 ACTIVE INGREDIENT

2,4,5-T = 4.4075

2,4-D = 4.2115

8.6190

MAXIMUM POSSIBLE VALUE

2,4,5-T = 4.300

" acid = .215 *

2,4-D = 4.336

" acid = 0.027 *

total = 8.778